In February 2011, India’s Minister of Finance announced in the Union Budget a new investment vehicle to fund the infrastructure sector—infrastructure debt funds (IDFs). Later that year, the Reserve Bank of India and the Securities and Exchange Board of India promulgated IDF regulations. In 2012 and into 2013, a flurry of financial institutions applied and received approvals to establish IDFs. Yet, despite all of this activity, IDFs are yet to achieve their potential. This white paper investigates IDFs’ challenges and what ADB can do to help accelerate their development.

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Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.
Under Construction: India’s Infrastructure Debt Funds
Their Importance, Challenges, and Opportunities

Don Lambert
No. 29 | September 2014

Don Lambert is senior finance specialist at the Public Management, Financial Sector and Trade Division of the South Asia Department, ADB
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ABSTRACT

In February 2011, India’s Minister of Finance announced in the Union Budget a new investment vehicle to fund the infrastructure sector—infrastructure debt funds (IDFs). Later that year, the Reserve Bank of India and the Securities and Exchange Board of India promulgated IDF regulations. In 2012 and into 2013, a flurry of financial institutions applied and received approvals to establish IDFs. Yet, despite all of this activity, IDFs are yet to achieve their potential.

This working paper investigates IDFs’ challenges and what, if anything, the Asian Development Bank (ADB) can do to help accelerate their development. It begins with a brief overview of IDFs and then makes three central arguments: (i) India needs IDFs as it addresses one of the key limiting factors to infrastructure development; (ii) there are two fundamental challenges inhibiting IDFs’ emergence; and (iii) these challenges create an opportunity for ADB assistance.
I. OVERVIEW OF INFRASTRUCTURE DEBT FUNDS

A. Infrastructure Debt Funds Globally

1. Infrastructure investing emerged in the 1990s as an alternative asset class popular among institutional investors. Because it is inefficient for investors to have a dedicated team to source and manage a niche exposure, infrastructure funds became popular vehicles to gain sector exposure while minimizing administrative costs.

2. Infrastructure debt funds (IDFs) are a subset of infrastructure funds. Whereas some funds focus on equities, IDFs invest principally in fixed-income assets that are less risky and distribute cash more frequently.

3. Given developing Asia’s strong demand for infrastructure and its relatively small IDF sector, IDFs hold strong regional promise (Figure 1).

B. Infrastructure Debt Funds in India

4. Against this global backdrop, India set out in 2011 to develop its own IDF sector and introduced two different IDF structures: nonbank financial companies (NBFCs) and mutual funds (Table 1).

Figure 1: Global Overview of Infrastructure Debt Funds

Note: Bubbles and dollar amounts equal committed or raised capital of the region’s private infrastructure debt funds.

Source: Preqin Infrastructure Online.
I. OVERVIEW OF INFRASTRUCTURE DEBT FUNDS

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<table>
<thead>
<tr>
<th></th>
<th>NBFC</th>
<th>Mutual Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Structure</strong></td>
<td>• Conceptually like banks: funded with equity and debt, but instead of bank deposits, NBFCs rely on bonds</td>
<td>• Conceptually like private equity funds: issue periodic capital calls and return capital at a scheme’s maturity</td>
</tr>
<tr>
<td><strong>Capital</strong></td>
<td>• Approximately 10% equity and 90% debt</td>
<td>• 100% equity financed through the issuance of rupee-denominated units</td>
</tr>
<tr>
<td></td>
<td>• Only domestic investors may invest in NBFCs’ equity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• May issue both dollar- and rupee-denominated bonds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Bonds must have a minimum 5-year maturity</td>
<td></td>
</tr>
<tr>
<td><strong>Maturity</strong></td>
<td>• Going concerns</td>
<td>• Finite tenor of 5–15 years</td>
</tr>
<tr>
<td><strong>Capital</strong></td>
<td>• Capital to risk–weighted assets ratio of 15%</td>
<td>• No leverage, so no capital requirements</td>
</tr>
<tr>
<td>requirements</td>
<td>• Infrastructure assets only charged a 50% risk weighting whereas banks charged 100%, which allows IDF NBFCs to have roughly twice the leverage of banks</td>
<td></td>
</tr>
<tr>
<td><strong>Eligible assets</strong></td>
<td>• PPPs with tripartite agreements and at least 1 year of operations</td>
<td>• Infrastructure at any lifecycle stage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 90% infrastructure debt instruments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 10% money market instruments and infrastructure equity and subordinated debt</td>
</tr>
<tr>
<td><strong>Likely sectors</strong></td>
<td>• Roads and to a lesser extent airports and ports</td>
<td>• Roads, airports, ports, water, power generation, power transmission, telecommunications, social infrastructure, etc.</td>
</tr>
<tr>
<td><strong>Minimum credit rating of investments</strong></td>
<td>• Domestic BBB–</td>
<td>• 30% limit on unrated or rated below domestic BBB– (50% with approval of the asset management company’s trustees and board)</td>
</tr>
<tr>
<td><strong>Regulator Sponsors</strong></td>
<td>• Reserve Bank of India</td>
<td>• Securities and Exchange Board of India</td>
</tr>
<tr>
<td></td>
<td>• Banks and infrastructure finance companies</td>
<td>• Mutual funds or companies in the infrastructure finance sector</td>
</tr>
<tr>
<td><strong>Maximum loan takeout</strong></td>
<td>• 85% of the project cost under the concession agreement</td>
<td>• No limit</td>
</tr>
<tr>
<td><strong>Access to non-judicial collateral enforcement</strong></td>
<td>• Yes</td>
<td>• No</td>
</tr>
<tr>
<td><strong>Ratings</strong></td>
<td>• Because their assets are relatively low risk, NBFCs expect domestic ratings of AA or higher</td>
<td>• Equity instruments, so credit ratings are not applicable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Fitch Ratings and Research has developed fund ratings that are a relative assessment of the sponsor, asset manager, internal controls, etc.</td>
</tr>
</tbody>
</table>

IDF = infrastructure debt fund, NBFC = nonbank financial company, PPP = public–private partnership.


1. Advantages of Nonbank Financial Companies

5. **Less risky.** NBFCs may only invest in public–private partnerships (PPPs) that have completed 1 year of commercial operations. These assets have no construction risk and are already generating revenue. Furthermore, NBFCs must sign a tripartite agreement with the current lenders and the PPP’s concession authority. Under this tripartite agreement, if the PPP defaults, the concession authority, which would typically have a domestic rating of AAA, guarantees 90% of the PPP’s debt. Because NBFCs are only allowed to take out 85% of the debt under the concession agreement, their exposure is effectively guaranteed. This structure allows NBFCs to achieve strong domestic credit ratings, presumably AA or higher.

6. **Larger investor pool.** With better projected returns than the Government of India’s securities and strong domestic credit ratings, NBFCs are an attractive investment for India’s insurance companies, pension funds, and provident funds. NBFCs domestically rated AAA, which equates to an international investment grade rating of BBB–, could potentially attract investment from international institutional investors. Together, these domestic and international sources represent a large pool of potential capital.

2. Advantages of Mutual Funds

7. **Larger pool of investable assets.** Mutual funds have more flexibility and are not limited to:

   (i) **PPPs.** Although some airports and ports in India employ PPPs, most PPPs are roads, so NBFCs are principally or exclusively limited to roads. Mutual funds can invest in a much broader range of subsectors to include power, telecommunications, and even “social infrastructure” such as hotels, schools, and hospitals.

   (ii) **Partial takeouts.** Whereas NBFCs are restricted to partial takeouts, mutual funds can take out 100% of existing exposures.

   (iii) **Brownfield projects.** Mutual funds can invest at any stage in the project cycle to include greenfield and distressed projects.

8. **Higher return potential.** Mutual funds have higher return potential because of their opportunity to assume more risks (Table 2).
Table 2: Analysis of Selected Risks

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>NBFC Bonds</th>
<th>Mutual Fund Units</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital loss</td>
<td>Low</td>
<td>Low to high</td>
<td>Because of their structuring, NBFC bonds are likely to return their initial principal, even after adjusting for inflation. For mutual funds, risk of capital loss depends on the fund manager’s investment strategy.</td>
</tr>
<tr>
<td>Commodity</td>
<td>Low</td>
<td>Low</td>
<td>Both have some exposure to fluctuations in commodity prices (e.g., higher oil prices reduce toll road traffic, higher coal prices reduce profitability of power plants).</td>
</tr>
<tr>
<td>Construction</td>
<td>None</td>
<td>Low to high</td>
<td>NBFCs may not take construction risk whereas mutual funds may.</td>
</tr>
<tr>
<td>Country</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Both are exposed to country risks such as regulatory, legal, inflation, convertibility, and transferability risks; additionally, international investors in NBFC are exposed to the risk that a downgrade in India’s sovereign rating could lower their bonds to below investment grade.</td>
</tr>
<tr>
<td>Equity</td>
<td>None</td>
<td>Low to moderate</td>
<td>Mutual funds may invest up to 10% of their capital in equity and quasi-equity instruments; NBFCs are prohibited.</td>
</tr>
<tr>
<td>Foreign exchange</td>
<td>Low</td>
<td>Low to high</td>
<td>Both structures expose foreign investors to the risk of rupee depreciation; hedges are limited and expensive. However, mutual funds are much more likely to depend on foreign investment.</td>
</tr>
<tr>
<td>Operational</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Both structures require the establishment of new business entities, systems, and procedures.</td>
</tr>
<tr>
<td>Prepayment</td>
<td>Low to moderate</td>
<td>Moderate</td>
<td>Indian loans often contain prepayment clauses. If interest rates fall, borrowers will repay, and the fund manager must then reinvest the principal at the lower prevailing rates. Prepayment risk is unlikely to jeopardize NBFC bond payments but could reduce mutual fund investors’ returns.</td>
</tr>
<tr>
<td>Secondary market liquidity</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Although NBFC bonds and mutual fund units must be listed, trading is expected to be limited; investors will likely pay a liquidity premium to exit prior to maturity.</td>
</tr>
<tr>
<td>Subsector concentration</td>
<td>Moderate</td>
<td>Low to moderate</td>
<td>Although IDFs can achieve geographic diversification across India, all are concentrated in infrastructure. Whereas mutual funds can invest in multiple subsectors, NBFCs are further concentrated to tollways.</td>
</tr>
</tbody>
</table>

IDF = infrastructure debt funds, NBFC = nonbank financial company.

3. Nascent Funds

Some of the most prominent names in India finance and construction, such as Birla Sun Life, ICICI Bank, India Infrastructure Finance Company Limited, Infrastructure Leasing and Financial Services Limited, and L&T Infrastructure Finance, have established IDFs. Of the more advanced ventures, the mix between NBFCs and mutual fund is roughly balanced. India Infra debt Limited, which is an NBFC and led by ICICI Bank, closed the first IDF transaction in February 2014. It was for Rs500 million, with Himalayan Expressway Limited, a subsidiary of the Jaypee Group; and funded a 29-kilometer stretch of the Zirakpur–Parwanoo Highway. Several other IDFs have successfully raised funding but are yet to close their first deal.
II. THE NEED FOR INFRASTRUCTURE DEBT FUNDS

A. Infrastructure Financing Gap

10. Infrastructure is a binding constraint on India’s development. The reasons for infrastructure’s challenges are many: land acquisition, environmental clearances, evolving regulations, over-leveraged contractors, aggressive demand studies, etc.

11. Although IDF s will not resolve these various constraints, they will help an additional problem: lack of long-term financing. Rs65 trillion ($1.1 trillion) of infrastructure financing is needed over the 12th Five-Year Plan (2012–2017).1 However, 21% of this financing must come from currently unidentified sources. If IDF s develop, the government projects that they finance could generate up to $17 billion toward closing this infrastructure financing gap (Figure 2).

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B. Limitations on Bank Financing

12. Banks, which after the government, are the leading source of India’s infrastructure finance, cannot fill this gap for several reasons:

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(i) **Asset liability management.** Infrastructure projects typically have long-term repayment profiles whereas banks are funded with short-term liabilities. As discussed later (paras. 18–20), this mismatch structurally limits bank financing.

(ii) **Borrower limits.** Banks’ boards may set internal limits on their exposure to infrastructure. Additionally, the Reserve Bank of India (RBI) has established regulatory limits for individual infrastructure borrowers (20%–25% of regulatory capital) and groups of related infrastructure borrowers (50%–55% of regulatory capital). Banks are approaching these regulatory limits, which are already significantly higher than international comparators and so there is not reasonable scope to relax them.

(iii) **Bank capital.** India’s banks face capital pressures. First, India’s economic slowdown is increasing borrower default rates. Second, RBI is eliminating special regulatory forbearances for infrastructure loans and phasing in new restrictions on “ever-greening” (i.e., restructuring loans to avoid classifying them as nonperforming). Third, India plans to phase in Basel III’s higher capital requirements. These developments will reduce the capital that banks have for lending and borrower limits.

### Untapped Alternatives

13. Whereas banks face limitations, there are untapped alternatives. Life insurance companies, pensions, and provident funds are natural investors because their long-term liabilities mirror the long-term cash flows of infrastructure assets.

14. Despite this potential, these investors have minimal infrastructure exposure. India’s life insurers have a regulatory requirement to invest at least 15% of their assets in infrastructure and housing; as of March 2012, it was only 10%. The impediment has been credit quality. Infrastructure projects typically have domestic credit ratings of A or lower—ratings that either prohibit or limit institutional investors.

15. IDF NBFCs were structured to overcome these limitations. They are expected to issue debt with domestic ratings of AA or higher; and India’s insurance companies, pension funds, and provident funds have all received regulatory approval to invest.

16. IDFs were also designed to attract foreign investment. Out of the $51 billion that foreign institutional investors (FIIs) may invest in Indian corporate debt, $10 billion has been allotted for IDFs. Withholding taxes for IDFs are also lower at 5% as compared to the normal 20%.\(^2\)

### Improved Project Viability

17. IDFs could not only attract new capital but could also channel it to projects that might otherwise be unviable. Consider the example of a $100 million infrastructure project. It is expected in its first year to generate $16.5 million of cash that would compound 5% annually. If banks were intent to match their assets to their liabilities, they might only extend a 5-year fixed-rate loan.

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\(^2\) In May 2013, India reduced the withholding tax from 20% to 5% from June 2013 until May 2015 for all interest income accruing to foreign institutional and qualified foreign investors.
18. With a 5-year repayment period, the project’s forecasted minimum debt service coverage ratio (DSCR) is 0.68, so it is unviable and not constructed. However, if the sponsors could access fixed-rate financing for 10 years, the minimum DSCR would improve—even with a higher interest rate—to 1.20, a bankable level (Table 3 and Figure 3).

### Table 3: Impact of Tenor on Project Viability

<table>
<thead>
<tr>
<th></th>
<th>5-Year</th>
<th>10-Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrowings</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Interest rate (%)</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Year 1 principal repayment</td>
<td>12.00</td>
<td>3.25</td>
</tr>
<tr>
<td>Annual principal step-up</td>
<td>4.00</td>
<td>1.50</td>
</tr>
<tr>
<td>Minimum DSCR</td>
<td>0.68</td>
<td>1.20</td>
</tr>
<tr>
<td>Average DSCR</td>
<td>0.74</td>
<td>1.26</td>
</tr>
</tbody>
</table>

DSCR = debt service coverage ratio.

19. The preceding example is, of course, incomplete. Banks would make the loan for longer than 5 years but would periodically reset the interest rate. However, floating rates augment credit risk. Consider the same project. If interest rates increase 1% point a year—not a particularly stressful scenario—the project’s minimum DSCR falls from 1.20 to 1.09, an imprudent level (Table 4 and Figure 4). IDFs, either through greenfield financing or brownfield refinancing, can provide sponsors with the long-term fixed-rate financing needed to support infrastructure construction.

### Table 4: Impact of Fixed and Floating Interest Rates on Project Viability

<table>
<thead>
<tr>
<th></th>
<th>Fixed</th>
<th>Floating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrowings</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Initial interest rate (%)</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Year 5 interest rate (%)</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>Minimum DSCR</td>
<td>1.20</td>
<td>1.09</td>
</tr>
<tr>
<td>Average DSCR</td>
<td>1.26</td>
<td>1.30</td>
</tr>
</tbody>
</table>

DSCR = debt service coverage ratio.
III. INFRASTRUCTURE DEBT FUNDS CHALLENGES

20. Despite IDFs’ clear necessity, they have not yet gained momentum because of two types of challenges. The first are generalized challenges that are inherent to infrastructure investments in India or new businesses. Although difficult, IDFs should be able to manage through them. The second is more serious and must be addressed for the sector to achieve scale.

A. Generalized Challenges

21. **Sector risk.** Land acquisition, environmental clearances, evolving regulations, and plodding courts, among other things, create a challenging sector for IDFs or any other investor.

22. **Pricing.** Credit margins in India are low compared to international standards, as banks—which enjoy plentiful liquidity and certain regulatory leniencies—compete intensely to generate loans. Infrastructure promoters are often among India’s most credible companies, so banks will be particularly hesitant to lose their business to IDFs. Furthermore, some promoters may prefer banks’ floating rates to IDFs fixed-rate loans, wagering that interest rates will fall.

23. **Economic slowdown.** Infrastructure returns correlate with economic growth, and the recent economic slowdown diminishes infrastructure’s outlook. Additionally, sponsors had been bidding aggressively for projects. Their prior assumptions have become untenable, so now both their finances are stretched and their incentives to undertake successfully tendered projects reduced.

24. **Secondary market liquidity.** Although IDFs are required to list their units or bonds, the domestic secondary market is expected to have minimal liquidity. Most likely, IDFs will have to limit their capital raising to investors with long-term time horizons. Alternately, overseas feeder funds could create liquidity. The feeder fund would issue shares and/or bonds and then invest this capital onshore into IDFs—functioning essentially as a fund of funds. Investors that wanted to exit early could sell their investments in the feeder fund, and because the feeder fund investments are listed in a major overseas financial center, liquidity premiums should be smaller than for direct investments into IDFs.
25. **Regulations.** The Securities and Exchange Board of India is responsible for regulating IDF mutual funds and the RBI for NBFCs. Although government officials have already made several changes, outstanding regulatory issues remain:

(i) *Early return of principal.* Mutual funds may not return principal to investors prior to a mutual fund scheme’s maturity. For example, an 8-year scheme invests in an asset yielding 10%. At year 6, the asset prepay. With only 2 years remaining, the IDF has limited reinvestment options. Because mutual funds may not return principal early, the IDF reinvests in short-term, lower-yielding instruments that reduce the IDF’s overall return.

(ii) *Limited extensions.* Mutual funds may only apply for one 2-year extension, so IDF may have to liquidate assets at discounted prices to avoid breaching a once-extended limit.

(iii) *Restructuring of payment terms.* If NBFCs—capitalizing on their long-term funding—extend the terms of a takeout loan, the loan is considered restructured and incurs higher provisions. India’s Secretary of Economic Affairs announced in September 2013 that RBI is looking into this issue, so a resolution may be forthcoming.

(iv) *Insurance regulations.* If an insurance company invests in an NBFC’s bonds, it counts toward the requirement to invest 15% of assets in infrastructure. However, mutual fund’s units currently do not qualify as infrastructure investments.

26. **Execution.** Each IDF is a new business that will experience difficulties inherent to a startup. Furthermore, IDFs need to develop efficient systems to evaluate and negotiate investments, document legal agreements, and monitor exposures.

B. **Fundamental Challenges**

1. **Release of Loans to Nonbank Financial Companies**

27. Banks face clear disincentives to selling their performing brownfield projects to an IDF NBFC:

(i) Guarantees from the concession authority cover 90% of the project cost under the concession agreement. It does not cover cost overruns, so in practice banks have a significant unguaranteed exposure. Under the tripartite agreement, banks would transfer to NBFCs only guaranteed exposure, which would significantly increase their proportional losses in the event of a default (Table 5).

**Table 5: Example of the Impact of an Infrastructure Debt Fund Takeout on a Bank’s Residual Exposure**

<table>
<thead>
<tr>
<th></th>
<th>Before IDF Takeout</th>
<th>After IDF Takeout</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concession agreement</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Construction cost overruns</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Total debt financing requirement</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Bank loan to project</td>
<td>100</td>
<td>32</td>
</tr>
<tr>
<td>IDF loan to project</td>
<td>0</td>
<td>68</td>
</tr>
<tr>
<td>Guaranteed portion of bank loan</td>
<td>72 (72%)</td>
<td>4 (13%)</td>
</tr>
<tr>
<td>Guaranteed portion of IDF loan</td>
<td>n/a</td>
<td>68 (100%)</td>
</tr>
</tbody>
</table>

*n/a = not applicable.*

IDF = infrastructure debt fund.

(ii) NBFCs are signing the tripartite agreements postconstruction—just when a loan's risk has fallen.
(iii) With the current slowdown, fewer projects will be undertaken, which encourages banks to retain existing loans.
(iv) Outside of a few private banks, state banks predominate infrastructure lending. These institutions face political pressure to grow their balance sheets, a clear disincentive to selling loans.
(v) RBI is implementing both Basel III and new provisioning standards, which will incentivize banks to divest their brownfield infrastructure assets. But these changes are gradual, so the natural financial pressures to divest underperforming loans are currently moderated.

2. Mutual Fund Capital Raising

28. If and when NBFCs begin to take out bank loans, there should be a ready domestic market for their bonds. Conversely, mutual funds—because there are fewer restrictions on their potential portfolios—should be able to source assets. Their main problem is funding because domestic demand could be limited (Figure 5).

![Figure 5: Limitations on Domestic Funding Sources for Infrastructure Debt Fund Mutual Funds](image)

- Retail Investors
  - Require minimum investment of Rs10 million ($100,000), so the potential market is small and dispersed
- Corporations
  - Prefer investments with maturities of 5 years or less
  - Generally avoid treasury risk and invest their excess cash in low-risk government securities
- Banks
  - Need to diversify away from infrastructure
  - Need to reduce ALM mismatches
  - Face capital pressures
- Pension Funds, Provident Funds, and Life Insurance Companies
  - Have in some cases limited financial sophistication and risk appetite

ALM = asset-liability management, Rs = Indian rupee.

29. Domestically, IDF mutual funds are left with high net worth individuals, banks with available capital and without infrastructure concentrations, and relatively sophisticated long-term institutional investors (i.e., the Life Insurance Corporation of India). IDF mutual funds may struggle if relying exclusively on these domestic sources.
30. Foreign direct investment (FDI) is a logical supplement. For India, more FDI is needed to continue to stabilize the current account deficit and reduce dependence on balance of payment portfolio flows. Meanwhile, FIIs have been increasing their exposure to alternative assets, including both infrastructure and emerging markets. They often have long investing horizons that complement IDF’s long tenors.

31. Despite these synergies, no FII has yet invested. There are the previously discussed general challenges to investing in Indian infrastructure through an untested vehicle, but these risks are manageable within the context of a diversified portfolio. Foreign exchange (FX) risk has been the main obstacle:

(i) Recent volatility and depreciation. During 2013, the rupee experienced bouts of volatility, which heightens FX risk and raises the costs of any hedging; and depreciation, which reduces foreign investors’ returns (Figure 6).

(ii) Forecasted depreciation. If uncovered interest rate parity holds, then there is, ceteris paribus, a long-term correlation between inflation differentials and FX movements. As inflation in India is expected to remain higher than in the United States, investors need to account for further potential depreciation (Figure 7). This outlook could worsen if Indian exporters are relatively less productive during the investment period, which would put downward pressure on the rupee to regain lost competitiveness.
(iii) **Limited long-term hedging.** IDFs are long-term instruments. FX swaps are generally unavailable beyond 8–10 years and FX put options beyond 5 years. The government tried to address this shortfall through offering currency protection in the tripartite agreement. However, this protection only applies to NBFCs (and not mutual funds), investments in roads (and not other sectors), and—most importantly—only in an event of default. Investors still face the much more likely situation that the asset repays on time, but the local currency distributions have depreciated significantly.

(iv) **Unaffordable hedging.** When hedges are available, their prices make IDFs unattractive. For example, the put premium on a 5-year rupee put option with a strike price equal to the current spot price can exceed 20% of the invested amount.

(v) **Erratic cash flows.** Even if hedges were available and affordable, mutual funds—unlike bonds—have erratic cash flows. Investors are uncertain of the date and amount of distributions.

### IV. OPPORTUNITIES FOR ADB ASSISTANCE

There is probably little the Asian Development Bank (ADB) can do to accelerate the divestment of assets to NBFCs. The government is reluctant to relax the tripartite agreement until the IDF NBFCs have a more established record. Meanwhile, NBFC managers are left to negotiate transaction-by-transaction to build their portfolios. This approach is slow and may limit the pool of potential NBFC sponsors to the larger institutions, which will have more leverage in such negotiations. Notwithstanding, there is a clear role for ADB to accelerate the mutual funds, which do not face the same asset origination constraints.
A. Direct Investment via Sovereign Facility

33. ADB’s simplest option is to invest directly into an IDF. ADB could buy IDF units, and as long as India provides a guarantee or counter-guarantee, it could be structured as a sovereign facility.

34. This approach, however, only works if India is willing to provide a sovereign guarantee or counter-guarantee; government officials have communicated reluctance to assume credit risk to IDFs.

B. Direct Investment via Nonsovereign Facility

35. A direct investment through ADB’s nonsovereign window would not require a sovereign guarantee, and the investment risks to ADB are manageable. The country, credit, and operational risks are diversifiable and less than those for ADB’s portfolio of private equity funds whose underlying assets are equity instead of debt. ADB has a long-term investment horizon and therefore does not require secondary market liquidity. ADB may even be able to fund an investment with rupee-denominated retained earnings that would hedge the FX risk.

36. A nonsovereign facility, however, has limitations. ADB’s nonsovereign lending capacity is significantly smaller than its sovereign. Moreover, ADB would still need to find other investors to co-invest since internal limits restrict ADB’s participation to 25%.

C. Foreign Exchange Facility

37. An ADB sovereign loan—structured to provide FX protection—could (unlike a direct sovereign investment) eliminate the need for the government to assume credit risk and (unlike a direct nonsovereign investment) operate on a large scale. Figure 8 illustrates one possible structure. A feeder fund based in a major offshore financial center (e.g., London, Singapore) could raise foreign currency debt and/or equity to invest as local currency into an onshore IDF. As the feeder fund repays the senior debt, ADB would disburse to cover any currency depreciation. At the IDF’s maturity, ADB’s disbursements would become a sovereign loan to the Government of India. For this FX coverage, the feeder fund would pay a swap fee that would include the commitment fee for ADB’s loan.
38. Such an FX facility would have key advantages. It would: (i) catalyze the IDF sector’s development; (ii) leverage ADB assistance several fold (Figure 9); (iii) mobilize FDI to the benefit of India’s current account deficit; and (iv) potentially provide infrastructure promoters—through the IDF mutual funds—with equity, which is particularly important because Indian promoters are currently undercapitalized.

**Figure 9: Leveraging of Foreign Exchange Facility**

$100 million - PV of ADB's disbursements

$250 million - FDI raised through the feeder fund (2.5x)

$313 million - IDFs source 20% of their finance domestically (3.1x)

$781 million - infrastructure supported (7.8x)

ADB = Asian Development Bank, FDI = foreign direct investments, IDF = infrastructure debt fund, PV = present value.

Notes: Assumptions include that the facility is for 14 years, the Indian rupee depreciates at 5.5% per annum, ADB’s cash flows are discounted at its lending rates, and that IDFs finance on average 40% of an infrastructure project’s costs.

39. The obvious drawback to an FX facility is that the government would be responsible for any FX losses. However, the government:

(i) may be comfortable with the FX risk; it is best positioned to manage the risk and may be confident in its long-term ability to control the fiscal deficit, current account deficit, and inflation;
(ii) would profit from any currency appreciation; and
(iii) would still leverage its resources manifold even in the event of unprecedented currency depreciation (Table 6).

Table 6: Leveraging of the Government of India’s Exposure

<table>
<thead>
<tr>
<th></th>
<th>Best Case</th>
<th>Breakeven</th>
<th>Base Case</th>
<th>Worst Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rupee annual depreciation (appreciation) (%)</td>
<td>(5.5)</td>
<td>3.9</td>
<td>5.5</td>
<td>11.0</td>
</tr>
<tr>
<td>GoI NPV cash flows ($ million)</td>
<td>125.4</td>
<td>-</td>
<td>(11.5)</td>
<td>(40.8)</td>
</tr>
<tr>
<td>FDI leveraged</td>
<td>n/a a</td>
<td>n/a a</td>
<td>21.8x</td>
<td>6.1x</td>
</tr>
<tr>
<td>Financing for IDFs leveraged b</td>
<td>n/a a</td>
<td>n/a a</td>
<td>27.2x</td>
<td>7.7x</td>
</tr>
</tbody>
</table>

- = nil, ( ) = negative, n/a = not applicable.
IDF = infrastructure debt fund, FDI = foreign direct investment, GoI = Government of India, NPV = net present value.

a Not applicable because the government either profited or broke even.
b Assumes that the IDFs raise 20% of their capital from domestic sources.


V. UNDER CONSTRUCTION

40. This paper has made three central arguments. First, India needs IDFs. Insufficient long-term finance is one of the key limitations on India’s infrastructure development; traditional infrastructure financiers are nearing capacity, and IDFs are an important component of any solution. Second, IDFs will not take off until NBFCs can efficiently source investments and mutual funds attract funding, particularly FDI. Third, ADB could play an important role in helping the mutual funds to access foreign direct investment through providing a long-term FX currency hedge. IDFs have been under construction for several years; with some minimal assistance, they can reach completion.
Under Construction: India’s Infrastructure Debt Funds
Their Importance, Challenges, and Opportunities

In February 2011, India’s Minister of Finance announced in the Union Budget a new investment vehicle to fund the infrastructure sector—infrastructure debt funds (IDFs). Later that year, the Reserve Bank of India and the Securities and Exchange Board of India promulgated IDF regulations. In 2012 and into 2013, a flurry of financial institutions applied and received approvals to establish IDFs. Yet, despite all of this activity, IDFs are yet to achieve their potential. This white paper investigates IDFs’ challenges and what ADB can do to help accelerate their development.

About the Asian Development Bank

ADB’s vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region’s many successes, it remains home to approximately two-thirds of the world’s poor: 1.6 billion people who live on less than $2 a day, with 733 million struggling on less than $1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

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